

**ABSTRACT**

[0032] A differential phase shift keyed demodulator system uses a Michelson interferometer configuration in which polarization maintenance is accomplished by using a single 50:50 coupler coupled to a first Faraday rotator mirror and a second Faraday rotator mirror through a first fiber and a second fiber, respectively. In this way, system passively eliminates the polarization problem caused by using a Mach-Zehnder interferometer.

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